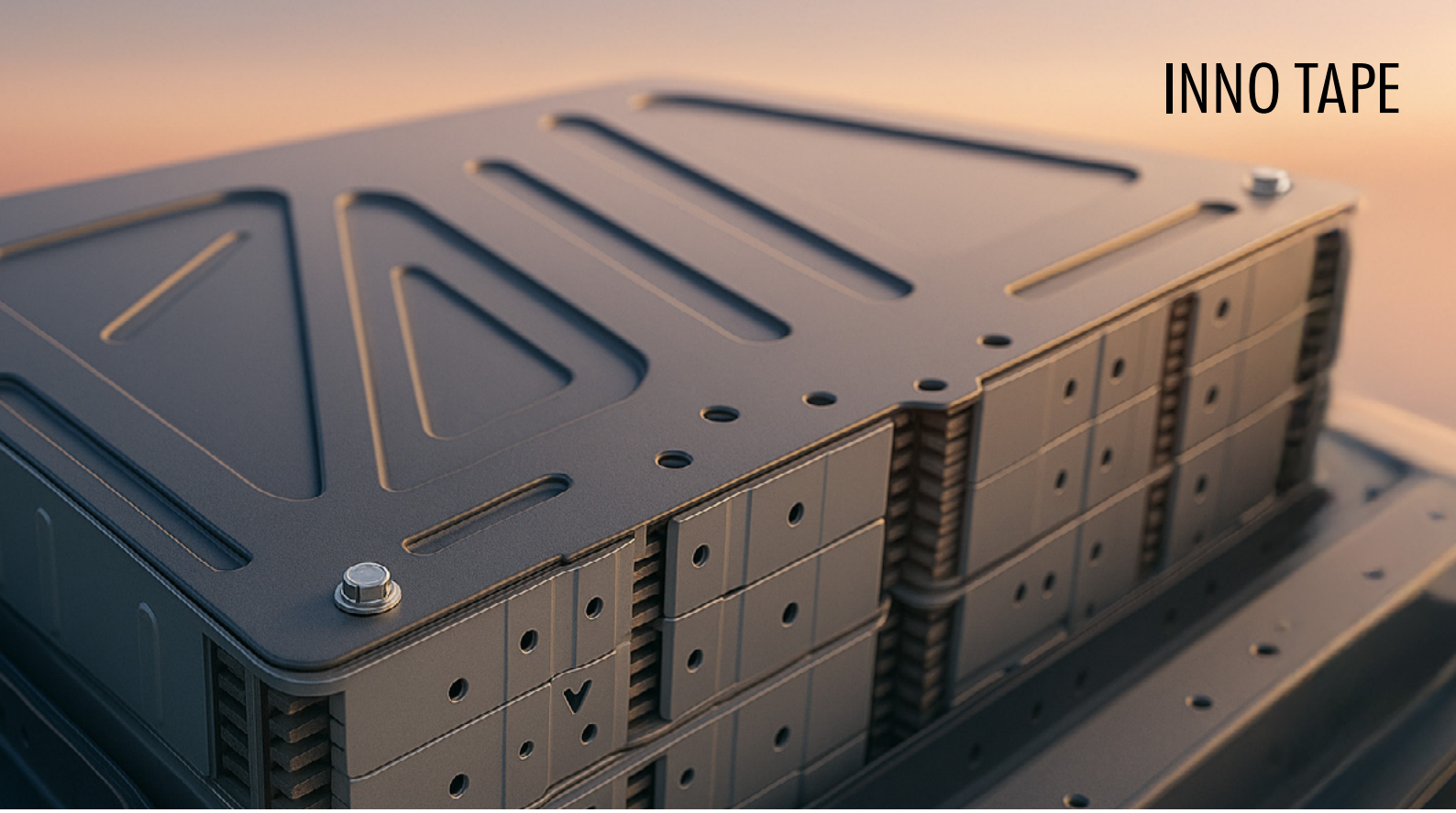


CASE STUDY

BATTERY MODULE MOUNTING

PRECISE, SAFE, COST-EFFICIENT: OPTIMISED BATTERY MOUNTING

When bonding battery modules in the premium e-segment, safety, temperature resistance and reliable handling are key – and that's with up to 60 moulded parts per vehicle.

The customer approached us with specific material specifications and an initial idea for the design. However, it quickly became apparent during the project that costs could be significantly reduced and the assembly process simplified by using a clever material alternative and a different handling solution.

This case study shows how we saved 60% in material costs while achieving faster, safer processing.

BATTERY MODULE MOUNTING

PRECISE, SAFE, COST-EFFICIENT: OPTIMISED BATTERY MOUNTING

INITIAL SITUATION

A double-sided heat transfer tape was to be used for the battery unit of a premium electric vehicle. Between 40 and 60 moulded parts are used per vehicle, which means that the requirements for safety, damping and process stability are correspondingly high. The customer provided us with a drawing in which the desired material was already defined. Our task was to develop a moulded part that could be integrated precisely and reliably into series production.

Potential analysis:
Material costs reduced by 60%
Upon reviewing the request, we discovered that there was an alternative material solution that met exactly the same technical requirements but was 60% cheaper.

We presented both options to the customer:

- the originally requested material
- the technically equivalent but significantly more economical alternative

The customer opted for the cheaper solution – without compromising on quality, but with considerable cost advantages across the entire quantity.

CHALLENGE

Once the material had been decided upon, it was time to move on to the technical details. The planned design presented several challenges:

1. Production as individual parts
The moulded part should be produced as a single piece, not lying on a roll. This means that two liners must be removed during installation. (In the case of a moulded part lying on a sheet or roll, one liner is automatically no longer on the moulded part as soon as it is removed from the carrier liner.)

2. Adhesive pull tab
At the same time, the plan was to use an adhesive pull tab, but its position was still unclear. This is feasible, but an adhesive pull tab added later requires additional work steps – and thus time, costs and potential for errors.

We therefore wanted to find a solution that would enable the customer to manufacture the part as a single component and at the same time ensure a stable assembly process.

SOLUTION

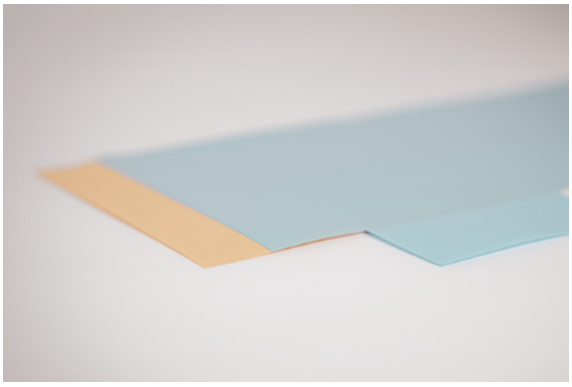
- Together with our development team, we came up with a design that makes the assembly process much easier:
- Both liners were given specific liner protrusions, which were already created during the die-cutting process.
- These serve as intuitive „grip points“ without the need for additional adhesive pull tabs.
- The process becomes faster, more stable and more economical because separate gluing is no longer necessary and the potential for errors is reduced.

Additional advantage:
The two liners have different siliconisation properties. This means that during manual handling, the liner that is to be removed first during the assembly process comes off first. To make them clearly distinguishable, both liners were given a different colour – important for a fast, error-free process on the line.

THE RESULT

The combination of material optimisation and intelligent design led to:

- 60% savings on material costs without any loss of quality
- significantly simplified handling during manual installation
- faster process flow thanks to liner overhangs instead of additional adhesive pull tabs
- secure installation thanks to high-temperature-resistant heat transfer tape
- reduced risk of errors thanks to colour-coded liners



WHY INNO TAPE

We think in terms of requirements rather than manufacturers and suggest alternative materials that optimally combine performance and cost. Our solutions are process-oriented and take every detail into account – from handling to process reliability. This results in robust, easy-to-assemble moulded parts that prove themselves in series production.

AND WHAT CAN WE DO FOR YOU?

No matter how far along you are in your project, feel free to contact us – we will support you and take the work off your hands: as a partner, manufacturer-independent, flexible and fast.

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